

# PATENT COOPERATION TREATY

# PCT

From the INTERNATIONAL SEARCHING AUTHORITY

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

To: D YOUNG & CO Attn. Denholm 21 New Fetter Lane London EC4A 3DF UNITED KINGDOM	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>MONEY</b></td> <td style="width: 10%;">£</td> <td style="width: 70%;"></td> </tr> <tr> <td><b>ORDER</b></td> <td></td> <td></td> </tr> <tr> <td><b>DIARY</b></td> <td></td> <td></td> </tr> <tr> <td><b>REC'D</b></td> <td></td> <td style="text-align: center;">- 8 APR 2004</td> </tr> <tr> <td><b>ANSO</b></td> <td></td> <td></td> </tr> <tr> <td><b>ENTRY</b></td> <td></td> <td></td> </tr> <tr> <td><b>FOR</b></td> <td></td> <td></td> </tr> </table>	<b>MONEY</b>	£		<b>ORDER</b>			<b>DIARY</b>			<b>REC'D</b>		- 8 APR 2004	<b>ANSO</b>			<b>ENTRY</b>			<b>FOR</b>		
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Date of mailing (day/month/year)      02/04/2004																						
Applicant's or agent's file reference PCT/GB 03/03436		<b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below																				
International application No. PCT/GB 03/03436		International filing date (day/month/year)      06/08/2003																				
Applicant DANISCO A/S																						

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
 34, chemin des Colombettes  
 1211 Geneva 20, Switzerland  
 Facsimile No.: (41-22) 740.14.35

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.


☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Marilú Masserut
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## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

**The amendments must be made in the language in which the international application is to be published.**

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

**The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.**

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

**The following examples illustrate the manner in which amendments must be explained in the accompanying letter:**

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### **"Statement under article 19(1)" (Rule 46.4)**

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### **Consequence if a demand for international preliminary examination has already been filed**

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

### **Consequence with regard to translation of the international application for entry into the national phase**

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b>		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No.  PCT/GB 03/03436	International filing date (day/month/year)  06/08/2003	(Earliest) Priority Date (day/month/year)  06/08/2002	
Applicant  DANISCO A/S			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**USE OF LACTOBACILLUS TO PRODUCE EXOPOLYSACCHARIDES IN FOOD AND PHARMACEUTICAL COMPOSITIONS**

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

8

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/03436

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 4-9 completely, and 1-3 and 15-43 partially

Use of Lactobacilli to produce exopolysaccharides in food and cosmetic compositions, and products obtained thereby.

- 1.1. claims: 1-9 and 15-43, all partially

Use as above, whereby Lactobacillus sakei spp. capable of producing a glucan sucrase is used.

- 1.2. claims: 1-9 and 15-43, all partially

Use as above, whereby Lactobacillus plantarum spp. capable of producing a glucan sucrase is used.

- 1.3. claims: 1-9 and 15-43, all partially

Use as above, whereby Lactobacillus salivarium spp. capable of producing a glucan sucrase is used.

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2. claims: 10-14 completely, and 1-3 and 15-43 partially

Use of Leuconostoc to produce exopolysaccharides in food and cosmetic compositions, and products obtained thereby.

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/03436

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12P19/04 A23C9/123 A23C9/20 A23L1/30 C12N9/10  
//C12R1/225

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12P A23L A23C C12N A23D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94/12656 A (QUEST INT ;DEN BERG DIRK JOHANNES CORNELI (NL); LEDEBOER ADRIANUS) 9 June 1994 (1994-06-09) cited in the application abstract; example 7 page 9, line 15 - line 17	1-5,7-9, 15-43
X	WO 01/57234 A (AHLGREN JEFFREY A ;SANDINE WILLIAM E (US); KNOSHAUG ERIC P (US); O) 9 August 2001 (2001-08-09) cited in the application	1-4, 15-35, 38-43
Y	the whole document	5-9,36, 37
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

23 March 2004

Date of mailing of the international search report

05. 04 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Smalt, R

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/03436

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	VAN GEEL-SCHUTTEN G H ET AL: "Screening and characterization of Lactobacillus strains producing large amounts of exopolysaccharides" APPLIED MICROBIOLOGY AND BIOTECHNOLOGY 1998 GERMANY, vol. 50, no. 6, 1998, pages 697-703, XP002260931 ISSN: 0175-7598 the whole document	5-9, 36, 37
X	VAN GEEL-SCHUTTEN, G H ET AL.: "Biochemical and structural characterization of the glucan and fructan exopolysaccharides synthesized by Lactobacillus reuteri wild-type and mutant strains" APPLIED AND ENVIRONMENTAL MICROBIOLOGY, WASHINGTON, DC, US, vol. 65, 1999, pages 53-72, XP002191551 ISSN: 0099-2240 the whole document	1-4, 15-35, 38-43
X	VAN HIJUM, S.A.F.T. ET AL.: "Molecular characterization of a novel fructosyltransferase from Lactobacillus reuteri synthesizing a high molecular weight fructan with beta-(2->1) linked fructosyl units in Escherichia coli" APPLIED AND ENVIRONMENTAL MICROBIOLOGY, WASHINGTON, DC, US, vol. 65, 1999, pages 73-95, XP002264246 ISSN: 0099-2240 the whole document	1-4, 15-35, 38-43
X	US 4 444 793 A (BODIE ELIZABETH A ET AL) 24 April 1984 (1984-04-24)  the whole document	1-3, 10-17, 19-43
X	EP 0 881 283 A (NESTLE SA) 2 December 1998 (1998-12-02)  the whole document	1-3, 10-17, 19-43
X	WO 00/47727 A (MAX PLANCK GESELLSCHAFT ; KOSSMANN JENS (DE); KNUTH KAROLA (DE); QUANZ) 17 August 2000 (2000-08-17) the whole document	1-3, 10-17, 19-43
A	EP 0 790 003 A (PURATOS NV) 20 August 1997 (1997-08-20) page 3, line 3 - line 20	

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/03436

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 03/008618 A (TNO ; VAN GEEL-SCHUTTEN GERRITDINA H (NL)) 30 January 2003 (2003-01-30) examples 1,2,6 -----	1-19, 33-39, 41-43
A	DATABASE WPI Section Ch, Week 200065 Derwent Publications Ltd., London, GB; Class A11, AN 2000-670970 XP002274658 & KR 2000 003 189 A (KIM D M) 15 January 2000 (2000-01-15) abstract -----	
A	ZAHNLEY J C ET AL: "Glycosyltransferase profiles of representative strains of Leuconostoc mesenteroides" FASEB JOURNAL, vol. 11, no. 9, 1997, page A1420, XP001160862 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting; San Francisco, California, USA; August 24-29, 1997 ISSN: 0892-6638 the whole document -----	

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/03436

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9412656	A	09-06-1994	AT 169060 T	15-08-1998
			AU 691165 B2	14-05-1998
			AU 5628794 A	22-06-1994
			CA 2150665 A1	09-06-1994
			DE 69320067 D1	03-09-1998
			DE 69320067 T2	18-02-1999
			DK 690922 T3	03-05-1999
			WO 9412656 A1	09-06-1994
			EP 0690922 A1	10-01-1996
			JP 8504578 T	21-05-1996
			US 5834043 A	10-11-1998
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WO 0157234	A	09-08-2001	AU 3973701 A	14-08-2001
			EP 1255447 A2	13-11-2002
			WO 0157234 A2	09-08-2001
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EP 0881283	A	02-12-1998	EP 0881283 A1	02-12-1998
			AU 736106 B2	26-07-2001
			AU 6901598 A	03-12-1998
			BR 9801736 A	11-01-2000
			CA 2233411 A1	30-11-1998
			CN 1201039 A	09-12-1998
			CZ 9801669 A3	13-01-1999
			HU 9801263 A2	28-07-1999
			ID 20359 A	03-12-1998
			IL 123979 A	06-12-2000
			JP 11009266 A	19-01-1999
			NO 982004 A	01-12-1998
			NZ 330239 A	28-01-1999
			PL 326483 A1	07-12-1998
			SG 86999 A1	19-03-2002
			TR 9800936 A1	21-12-1998
			TW 491689 B	21-06-2002
			US 6004800 A	21-12-1999
			US 6235511 B1	22-05-2001
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			ZA 9804647 A	29-11-1999
WO 0047727	A	17-08-2000	DE 19905069 A1	10-08-2000
			AU 3278700 A	29-08-2000
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			CN 1341148 T	20-03-2002
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			EP 1151085 A2	07-11-2001
			JP 2003522520 T	29-07-2003
			US 2003229923 A1	11-12-2003
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			ZA 200106474 A	13-02-2002
EP 0790003	A	20-08-1997	AT 230931 T	15-02-2003
			CA 2197730 A1	16-08-1997
			DE 69718358 D1	20-02-2003
			DE 69718358 T2	24-12-2003
			DK 790003 T3	05-05-2003
			EP 0790003 A1	20-08-1997

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/03436

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0790003	A	US 2003039722 A1 US 6399119 B1	27-02-2003 04-06-2002
WO 03008618	A	30-01-2003	30-01-2003
KR 2000003189	A	15-01-2000	NONE